

URANIUM ENRICHMENT DECONTAMINATION AND DECOMMISSIONING FUND

Appropriation, 2008	\$ 622,162,000
Budget estimate, 2009	480,333,000
Recommended, 2009	529,273,000
Comparison:	
Appropriation, 2008	- 92,889,000
Budget estimate, 2009	+48,940,000

The Uranium Enrichment Decontamination and Decommissioning Fund was established by the Energy Policy Act of 1992 (P.L. 102-486) to carry out environmental remediation at the nation's three gaseous diffusion plants, at the East Tennessee Technology Park in Oak Ridge, Tennessee, at Portsmouth, Ohio, and at Paducah, Kentucky. Title X of the 1992 Act also authorized use of a portion of the fund to reimburse private licensees for the federal government's share of the cost of cleaning up uranium and thorium processing sites.

The Committee recommends \$529,273,000 for activities funded from the Uranium Enrichment Decontamination and Decommissioning Fund, an increase of \$48,940,000 over the budget request. This amount includes \$514,273,000 for decontamination and decommissioning activities at the gaseous diffusion plants and \$15,000,000 for Title X uranium and thorium reimbursements. The increase of \$48,940,000 includes \$33,940,000 for the accelerated D&D of Oak Ridge East Tennessee Technology Park nuclear facilities, and \$15,000,000 for Title X uranium and thorium reimbursements.

SCIENCE

Appropriation, 2008	\$4,017,711,000
Budget estimate, 2009	4,721,969,000
Recommended, 2009	4,861,669,000
Comparison:	
Appropriation, 2008	+843,958,000
Budget estimate, 2009	+139,700,000

The Science account funds the Department's work on high energy physics, nuclear physics, biological and environmental research, basic energy sciences, advanced scientific computing, maintenance of the laboratories' physical infrastructure, fusion energy sciences, safeguards and security, workforce development for teachers and scientists, safeguards and security at Office of Science facilities, and science program direction.

The Committee is generally pleased with the Department's budget request for the Office of Science in fiscal year 2009. The requested 17.5 percent increase is the major incremental increase planned within the overall 10-year doubling of funding for these activities in DOE authorized by the America COMPETES Act (Public Law 110-69). A critical element of this increase is the support it would provide for 2,600 more research personnel, including graduate students. This addresses a major concern for the future of the United States economy, namely the availability of highly educated scientists and engineers to support the technical innovations that drive economic growth.

The fiscal year 2009 request would fully fund operating time at most existing DOE user facilities and equal or increased operating

time at several others. The request supports investments in major new research facilities such as the International Thermonuclear Experimental Reactor, the Linac Coherent Light Source, the 12 GeV upgrade to the Continuous Electron Beam Accelerator Facility, and the National Synchrotron Light Source II. U.S. scientific and technical leadership is also supported through the availability of advanced scientific computing facilities.

The Committee has some concerns regarding management practices at the Office of Science which must be resolved in order to ensure that the proposed increase is spent wisely. While the Office has recently shown its capacity to manage projects effectively, building the Spallation Neutron Source generally on budget, and on schedule, the Committee was disappointed to learn of the substantial cost overruns and schedule slippage that eventually forced the recent termination of the construction of the National Compact Stellarator Experiment (NCSX), after an investment of over \$100,000,000. The Committee commends the efforts by the Department to re-assess the scientific merit and technical viability of the project once they became aware of the cost and schedule issues, and supports the decision by the Department to terminate the project. However, the Committee is concerned by the lack of oversight that allowed the project to proceed as far as it did without the kind of detailed, independent technical design and costing validation that has recently been undertaken, an issue that seems to arise over and over again across the Department. It is essential that adequate support is provided up front to establish the reliability of new technologies that will be used, and that complete end-to-end system engineering and design is performed before proceeding to construction. Further, the Committee has been made aware of a recent report issued by the Department's Inspector General which has documented significant lapses of oversight in conference management at Oak Ridge National Laboratory (ORNL), such as the use of registration fees from non-Department sources to pay for alcohol, entertainment and gifts, and the lack of adequate reporting of conference information. The Department is instructed to follow the recommendations of the report and ensure that the more than \$38,000,000 spent across the Department on conferences is spent wisely. Finally, a key element of the Department's isotope production capability as well as the Manuel Lujan, Jr. Neutron Scattering Center are located at the Los Alamos Neutron Science Center (LANSCE). Unfortunately, a provision in the NNSA Act (Public Law 106-65) would preclude the employees and contractors of LANSCE from being subject to the authority, direction, and control of the Director of Science, even when LANSCE is conducting work tasked by and funded by the Office of Science. The Committee includes bill language eliminating this restriction, but only with respect to LANSCE research and operations for the isotope production mission transferred to the Office of Science.

The Committee is pleased with the efforts made by the Department to improve energy research and development integration across the Office of Science and with the applied energy programs. These efforts include cooperation in planning, through a series of twenty workshops undertaken by the Office of Science in order to identify critical science barriers to progress in several key energy technologies, as well as in budgeting, via the inclusion of integrated

budgets across the department for six key areas of importance to several of the Department's missions: Advanced Mathematics for Optimization of Complex Systems, Control Theory, and Risk Assessment; Electrical Energy Storage; Carbon Dioxide Capture and Storage; Characterization of Radioactive Waste; Predicting High Level Waste System Performance over Extreme Time Horizons; and High Energy Density Laboratory Plasmas. The request also contains funding for the first steps in the execution of these plans, including a proposal for \$100,000,000 for approximately two dozen Energy Frontier Research Centers (EFRCs) focused on addressing critical research needs identified by the recent workshops. The Committee is concerned, however, that the integration efforts have been either top-down, being undertaken at the level of Under Secretaries, or unique events such as workshop series and EFRCs. The Department should take the next step in this process and institutionalize mechanisms for coordination to ensure that these efforts are no longer the exception but the rule, and integrate such coordination with the Department's processes for planning, budgeting, and execution. With these additional steps, the Committee believes that the Department will make substantial progress in bridging the divide between basic science and applied technology, one of the main motivations underlying proposals for the creation of a new Advanced Research Projects Agency—Energy (ARPA-E).

The Committee recommendation is \$4,861,669,000, an increase of \$139,700,000 from the budget request and \$843,958,000 over the fiscal year 2008 enacted level.

HIGH ENERGY PHYSICS

The Committee recommends a total of \$804,960,000 for high energy physics, the same as the budget request and an increase of \$116,643,000 over the fiscal year 2008 enacted level. Funding is provided for the NOvA activity as well as for International Linear Collider (ILC) R&D and Superconducting Radiofrequency R&D activities. The Committee commends the Department for its efforts to engage the high energy physics scientific community to provide a bold vision for the future of the Nation's efforts in this area that is both realistic and scientifically compelling, particularly given the difficult budget constraints faced by the field in fiscal year 2008. Given the hefty estimated price tag and elongated timeframe presently envisioned for the ILC, the Committee believes that a balanced effort that addresses opportunities at the energy, luminosity, and cosmic frontiers by leveraging existing physical capital and facilities to the maximum extent possible and by engaging in international scientific cooperation is critical for the future of this field. To this end, the Committee directs the Department to work with the National Science Foundation (NSF) to pursue opportunities to couple facilities at Fermilab with facilities and experiments at the proposed Deep Underground Science and Engineering Laboratory (DUSEL) which may substantially enhance the scientific reach of both projects.

Over the past few years, the Committee has consistently supported the DOE/NASA Joint Dark Energy Mission (JDEM), a space probe which may provide a better understanding of the nature of the "dark energy" that constitutes the majority of the universe. This approach has been strengthened by the recommendation of

the National Research Council in September of 2007 that JDEM be the first of the Beyond Einstein space missions to proceed. The Committee is pleased with the efforts made by the Office of Science to work with NASA to establish a path forward for this mission which leverages the strengths of both agencies to unlock the secrets of dark energy, and encourages the organizations to formalize the agreement with a Memorandum of Understanding as soon as possible.

The control level is at the High Energy Physics level.

NUCLEAR PHYSICS

The Committee recommendation for nuclear physics is \$517,080,000, an increase of \$7,000,000 over the budget request, and \$84,354,000 above the fiscal year 2008 enacted level. The requested funding will support operations of the Thomas Jefferson National Accelerator Facility and the Relativistic Heavy Ion Collider. The requested funding will continue construction of the Electron Beam Ion Source at Brookhaven National Laboratory (project 07-SC-02). An additional \$7,000,000 above the budget request is provided to initiate and accelerate construction of the 12 GeV upgrade to the Continuous Electron Beam Accelerator Facility at the Thomas Jefferson National Accelerator Facility (project 06-SC-01). The Committee encourages the Department to complete PED for this upgrade and move expeditiously into the construction phase; any remaining PED funds should be applied to construction activities. The funding provided includes \$6,603,000 for nuclear physics activities relevant to the Characterization of Radioactive Waste, one of six integrated research and development areas highlighted in the request.

The request also includes funding for the isotope production program, which has been transferred to the Nuclear Physics account from the Nuclear Energy program. The Committee is encouraged to note that the request includes \$3,090,000 for research isotope development and production, an area identified by the National Academies as vital for the future of this program, and one of the motivations for the transfer of this program.

The control level is at the Nuclear Physics level.

BIOLOGICAL AND ENVIRONMENTAL RESEARCH

The Committee recommendation for Biological and Environmental Research is \$578,540,000, an increase of \$10,000,000 over the budget request. This area of the Office of Science encompasses two distinct research efforts whose funding is provided in separate subaccounts: using biology to address energy production and environmental remediation and a combination of climate and ecosystem modeling, field research, and radiation monitoring as part of the Climate Change Research Program. The Committee recommends that these programs be managed as independent subaccounts and component activities of the Office of Science. The control level is at the Biological Research and Climate Change Research levels.

Biological Research.—The Committee recommendation for Biological Research is \$418,613,000, an increase of \$5,000,000 over the budget request, and \$11,083,000 above the fiscal year 2008 enacted level. The increase of \$5,000,000 above the budget request is provided for the Life Sciences component of Biological Research and is

to be used to restore support for research efforts in radiochemistry and instrumentation that seek to capitalize on the Department's unique capabilities cutting across several scientific disciplines to stimulate advances in biological imaging. The funding provided also includes the requested \$1,500,000 for biological research activities relevant to the Characterization of Radioactive Waste and \$12,627,000 for biological research activities relevant to Carbon Capture and Storage, two of the six integrated research and development areas highlighted in the request.

Climate Change Research.—The Committee recommendation for Climate Change Research is \$159,927,000, an increase of \$5,000,000 above the budget request and \$23,060,000 above the fiscal year 2008 enacted level. The Committee is pleased that the Department, following Congressional direction, has finally begun to make climate change more of a priority with a request for a substantial increase in funding for climate modeling activities, an area in which the Department's considerable computational resources give it the potential to play a leading role. However, given the increasing likelihood that international action may be required to address global climate change, the Committee believes that it is critical that the Department also develop better tools for understanding, in an integrated fashion, the broader economic, environmental, and societal implications of climate change. An additional \$2,500,000 is provided to enhance integrated assessment activities, which utilize the results of climate models to assess mitigation and adaptation policies and technologies and their broader implications. Finally, as models are only as good as the science that supports them, a further increase of \$2,500,000 is provided to enhance climate forcing research activities, which address important scientific questions relevant to improving climate modeling such as the impact of aerosols and clouds on local and global temperatures.

Capabilities in climate change research are spread across multiple agencies: long-term, ground-based monitoring of the environment is generally the province of the National Oceanic and Atmospheric Administration (NOAA), while the long-term ecological research sites are supported through the National Science Foundation (NSF). Climate modeling at DOE benefits from the Department's preeminence in scientific computing, but climate modeling is also done by groups sponsored by NSF, NOAA, and NASA. As the Department increases its efforts in climate modeling, the Committee would like to see the Department take the initiative in coordinating these activities with the efforts supported by those agencies.

The funding provided also includes \$4,747,000 for climate change research activities relevant to Carbon Capture and Storage, one of six integrated research and development areas highlighted in the request.

BASIC ENERGY SCIENCES

The Committee recommendation for Basic Energy Sciences is \$1,599,660,000, an increase of \$31,500,000 over the budget request and an increase of \$329,758,000 over the current fiscal year. For purposes of reprogramming during fiscal year 2009, the Department may allocate funding among all operating accounts within

Basic Energy Sciences, consistent with the reprogramming guidelines outlined earlier in this report.

Research.—The Committee recommendation includes \$1,142,579,000 for materials sciences and engineering, and \$297,113,000 for chemical sciences, geosciences, and energy biosciences. The Committee recommendation funds operations of the five Nanoscale Science Research Centers, operations of the Advanced Light Source, the Advanced Photon Source, the National Synchrotron Light Source, the Stanford Synchrotron Radiation Laboratory, the Manuel Lujan, Jr. Neutron Scattering Center, the High Flux Isotope Reactor, the Linac Coherent Light Source (LCLS) linac at SLAC, and the Spallation Neutron Source (SNS) at their full optimal numbers of hours, as well as additional instrumentation for the SNS and LCLS. An additional \$17,000,000 is provided to accelerate the completion of the LCLS Ultrafast Science Instruments project and for LCLS operations to enable substantially more science to be done in the early stages of the operation of LCLS while it is the only x-ray free electron laser in the world. The recommendation includes \$8,240,000 for the Experimental Program to Stimulate Competitive Research (EPSCoR), the same as the budget request.

This funding includes \$100,000,000 for the Energy Frontier Research Center (EFRC) activities focused on addressing critical energy research needs identified by a series of ten Basic Research Needs workshops over the last several years. This Committee has long advocated the greater utilization of open competition for research funding that features head-to-head competition between national labs and universities to ensure that the best proposals will be funded regardless of the affiliation of the researchers involved, and supports the Department's decision to broadly compete the EFRCs in this manner. The Committee encourages the Department to update and expand upon its Basic Research Needs workshop series in order to ensure that any new science opportunities and challenges relevant to DOE's mission needs can be identified and addressed as they arise. Funding is provided in the Basic Energy Sciences for four integrated research and development areas: \$33,938,000 for Electrical Energy Storage, \$10,915,000 for Carbon Dioxide Capture and Storage, \$8,492,000 for Characterization of Radioactive Waste, and \$8,492,000 for Predicting High Level Waste System Performance over Extreme Time Horizons.

Construction.—The Committee recommendation includes \$159,968,000 for Basic Energy Sciences construction projects, an increase of \$14,500,000 over the budget request and \$66,703,000 above the fiscal year 2008 enacted level. The Committee recommendation provides the requested funding of \$11,500,000 for construction of the Advanced Light Source User Support Building (08-SC-01) at Lawrence Berkeley National Laboratory; \$3,728,000 for renovation of the Photon Ultrafast Laser Science and Engineering Building Renovation (08-SC-11) at the Stanford Linear Accelerator Center; \$107,773,000, \$14,500,000 above the budget request, for continued project engineering and design as well as to initiate construction of the National Synchrotron Light Source II (07-SC-06) at Brookhaven National Laboratory; and \$36,967,000 to continue construction of the Linac Coherent Light Source (05-R-320) at the Stanford Linear Accelerator Center.

ADVANCED SCIENTIFIC COMPUTING RESEARCH

The Committee recommendation is \$378,820,000, an increase of \$10,000,000 over the budget request and \$27,647,000 over the current fiscal year. The increase includes \$5,000,000 above the budget request to expand its Innovative and Novel Computational Impact on Theory and Experiment (INCITE) activities, which leverage the Department's leadership computational facilities and expertise by pairing them with scientists and engineers in other fields from universities, national laboratories, and industry to address critical scientific and technological questions. A further \$5,000,000 is provided to enhance advanced scientific computing research activities relevant to two of the six integrated research and development areas identified in the request. Including these additional funds, \$5,000,000 is provided for Advanced Mathematics for Optimization of Complex Systems, Control Theory, and Risk Assessment, and \$2,969,000 is provided for Carbon Dioxide Capture and Storage. These increases reflect the Committee's view of the importance of scientific computation not only in revolutionizing the way science is done, but also for applying these techniques to a wide range of modeling efforts relevant to the broader missions of the department.

FUSION ENERGY SCIENCES

The Committee recommendation for fusion energy sciences is \$499,050,000, an increase of \$6,000,000 over the budget request, and \$212,502,000 above the fiscal year 2008 enacted level. The Committee provides \$214,500,000 for the U.S. contribution to ITER, as requested. The Committee recommendation includes \$24,636,000 for fusion energy sciences activities relevant to High Energy Density Laboratory Plasmas, one of six integrated research and development areas highlighted in the request. The Committee supports the decision by the Department to terminate the National Compact Stellarator Experiment (NCSX) and provides \$9,000,000 to ensure orderly closeout of the project. The additional \$6,000,000 above the request, as well as the funding which had been requested for NCSX and is not required for closeout, are to be utilized by the Department to help revitalize the domestic fusion energy sciences program. Given the tremendous potential of fusion energy to provide a long-term solution to our energy needs, this Committee believes it is essential that the U.S. continue to play a leadership role in this area. To this end, the Department is directed to provide the Committee with a report no later than March 1, 2009 which describes a bold, credible plan for a world-leading U.S. fusion program as this area becomes an increasingly international endeavor.

SCIENCE LABORATORIES INFRASTRUCTURE

The Committee recommendation provides a total of \$145,760,000 for Science Laboratories Infrastructure, \$35,500,000 above the budget request. The Committee directs the Department to continue payments in lieu of taxes at the fiscal year 2008 level.

With the most recent estimate of the projected cost for disposal of excess facilities exceeding \$400,000,000, it is encouraging to see the Department, once again following Congressional direction, has increased its request for removal and cleanup efforts at its national

laboratories which reduce long-term liabilities and provide needed space for new activities. The Committee provides \$36,723,000, \$21,879,000 above the budget request, for excess facilities disposition activities. Of this amount, the Committee provides \$26,723,000, \$11,879,000 above the budget request, to demolish the Bevatron accelerator and Building 51 at Lawrence Berkeley National Laboratory, thereby freeing up 15 acres of buildable land for future activities. Last year, the Committee requested the Department to provide a detailed inventory of legacy radioactive contamination at Argonne National Laboratory (ANL) and a determination of the parent programs responsible for such contamination so that the Department could fairly apportion remediation. This report due on November 30, 2007 has yet to be submitted to the Committee, and in the absence of such information, the Committee directs the Office of Science to transfer \$10,000,000 from funds provided for excess facilities disposition to the Non-Defense Environmental Cleanup account for cleanup efforts at ANL.

This Committee has consistently voiced its concern over the inadequacy of the Department's requests for resources to address the aging infrastructure at its laboratories which often can no longer meet the requirements for the performance of world-class scientific research. With the maintenance backlog estimated to exceed \$518,000,000, the Committee is pleased to see the Department begin to address these issues with a ten-year Infrastructure Modernization Initiative. In order to accelerate these efforts, the Committee provides \$25,103,000 for modernization of laboratory facilities at Oak Ridge National Laboratory, \$11,000,000 above the budget request, and \$10,740,000 for Phase I of the Interdisciplinary Science Building project at Brookhaven National Laboratory, \$2,500,000 above the request, to expedite the initiation of construction of this project.

SAFEGUARDS AND SECURITY

The Committee recommends \$80,603,000, the same as the budget request, to meet safeguards and security requirements at Office of Science facilities.

SCIENCE PROGRAM DIRECTION

The Committee recommendation is \$203,913,000 for Science program direction, the same as the budget request. This amount includes: \$112,151,000 for program direction at DOE field offices, \$82,846,000 for program direction at DOE headquarters, and \$8,916,000 for the Office of Scientific and Technical Information (OSTI). The control level for fiscal year 2009 is at the program account level of Science Program Direction. This funding includes \$1,000,000 to support increased energy research analysis and studies relevant to DOE's energy and science missions. The Committee supports efforts by the department to improve its analytical capacity to assess its impacts on the energy system as well as innovation more broadly.

SCIENCE WORKFORCE DEVELOPMENT

The Committee provides \$13,583,000 for workforce development for teachers and scientists in fiscal year 2009, the same as the re-

quested amount. The Committee concurs with the proposed expansion of the Department's professional development program for science teachers. By utilizing the Department's intellectual and physical assets to provide teachers with the opportunity to become teacher-scientists rather than teachers who happen to teach science, this program can significantly enhance the ability of teachers to involve their students in doing science rather than just reading about and reproducing well-established principles.

ADVANCED RESEARCH PROJECTS AGENCY—ENERGY (ARPA-E)

The Committee recommendation includes \$15,000,000 in order to establish the Advanced Research Projects Agency—Energy within the Department to overcome the long-term and high-risk technological barriers in the development of energy technologies, as authorized by section 5012 of the America COMPETES Act (Public Law 110–69).

USE OF PRIOR YEAR BALANCES

The Committee recommendation includes the use of \$15,000,000 in prior-year balances.

CONGRESSIONALLY DIRECTED PROJECTS

The Committee recommendation includes \$39,700,000 for the following House-directed projects and activities.

CONGRESSIONALLY DIRECTED SCIENCE PROJECTS

PROJECT	
ADVANCED ARTIFICIAL SCIENCE AND ENGINEERING RESEARCH INFRASTRUCTURE (TX)	\$400,000
ALVERNIA COLLEGE SCIENTIFIC INSTRUMENTATION INITIATIVE (PA)	\$600,000
BARRY UNIVERSITY INSTITUTE FOR COLLABORATIVE SCIENCES RESEARCH (FL)	\$800,000
BIOTECHNOLOGY/FORENSICS LABORATORY (UT)	\$500,000
BRONX COMMUNITY COLLEGE CENTER FOR SUSTAINABLE ENERGY (NY)	\$500,000
BROWN UNIVERSITY, BROWN ENERGY INITIATIVE (RI)	\$1,000,000
CALIFORNIA STATE UNIVERSITY, SAN BERNARDINO TWIN TOWER PROJECT (CA)	\$600,000
CENTER FOR ADVANCED SCIENTIFIC COMPUTING AND MODELING (TX)	\$600,000
CENTER FOR CATALYSIS AND SURFACE SCIENCE AT NORTHWESTERN UNIVERSITY (IL)	\$1,000,000
CHEMISTRY BUILDING RENOVATION (MI)	\$500,000
CLEMSON UNIVERSITY CYBERINSTITUTE (SC)	\$1,500,000
CLINTON JUNIOR COLLEGE SCIENCE PROGRAM (SC)	\$400,000
COLLABORATIVE INITIATIVE IN BIOMEDICAL IMAGING (NC)	\$1,500,000
CURRICULUM AND INFRASTRUCTURE ENHANCEMENT IN STEM (PA)	\$500,000
DECISION SUPPORT TOOLS FOR COMPLEX ANALYSIS (DSTCA) (OH)	\$1,500,000
EASTERN KENTUCKY UNIVERSITY EQUIPMENT FOR NEW SCIENCE BUILDING (KY)	\$1,000,000
FUSION ENERGY SPHEROMAK TURBULENT PLASMA EXPERIMENT (FL)	\$1,000,000
GEORGE MASON UNIVERSITY -- NATIONAL CENTER FOR BIODEFENSE AND INFECTIOUS DISEASE (VA)	\$1,500,000
HOFSTRA UNIVERSITY CENTER FOR CLIMATE STUDY (NY)	\$500,000
IDAHO ACCELERATOR CENTER PRODUCTION OF MEDICAL ISOTOPES (ID)	\$1,000,000
IDAHO NATIONAL LABORATORY CENTER FOR ADVANCED ENERGY STUDIES (ID)	\$1,000,000
INSTITUTE FOR INTEGRATED SCIENCES AT BOSTON COLLEGE (MA)	\$2,500,000
INSTRUMENTATION AND CONSTRUCTION COSTS FOR THREE STUDENT INDEPENDENT RESEARCH LABS DEDICATED TO BIOLOGY, CHEMISTRY AND BIOCHEMISTRY, AND PHYSICS AT ALBRIGHT COLLEGE IN READING (PA)	\$400,000
LARGE SCALE APPLICATION OF SINGLE-WALLED CARBON NANOTUBES (OK)	\$750,000
LUTHER COLLEGE SCIENCE BLDG. RENOVATION PROJECT (IA)	\$750,000
MARYGROVE COLLEGE MATTERS (MI)	\$200,000
MICHIGAN GEOLOGICAL CARBON SEQUESTRATION RESEARCH AND EDUCATION PROGRAM (MI)	\$650,000
NATIONAL BIOREPOSITORY-NATIONWIDE CHILDREN'S HOSPITAL (OH)	\$750,000
NEXT GENERATION NEUROIMAGING AT CLEVELAND CLINIC (OH)	\$500,000
PROFESSIONAL SCIENCE MASTER'S ADVANCED ENERGY AND FUELS MANAGEMENT PROGRAM (IL)	\$450,000
PURDUE CALUMET INLAND WATER INSTITUTE (IN)	\$1,000,000
RAPID DETECTION OF CONTAMINANTS IN WATER SUPPLIES USING MAGNETIC RESONANCE AND NANOPARTICLES (MA)	\$1,500,000
RNAI RESEARCH, UNIVERSITY OF MASSACHUSETTS MEDICAL SCHOOL, WORCESTER (MA)	\$1,000,000
SCANNING NEAR-FIELD ULTRASOUND HOLOGRAPHY (SNFUH) INSTRUMENTATION FOR NON-INVASIVE AND NON-DESTRUCTIVE IMAGING OF NANOPARTICLE INTERACTION WITH CELLS (IL)	\$1,000,000

CONGRESSIONALLY DIRECTED SCIENCE PROJECTS

PROJECT	
SCIENCE EDUCATION FACILITY RENOVATIONS, OCU (OH)	\$1,000,000
SCIENCE, MATH, AND TECHNOLOGY EDUCATION INITIATIVE, COLLEGE OF ST. ELIZABETH (NJ)	\$500,000
SOUTHERN METHODIST UNIVERSITY ADVANCED PARALLEL PROCESSING CENTER (TX)	\$1,000,000
SPECT IMAGING INSTRUMENTATION RESEARCH INITIATIVE (IL)	\$1,000,000
ST. THOMAS UNIVERSITY U-CORTE (FL)	\$600,000
THE NATIONAL ENERGY POLICY INSTITUTE, UNIVERSITY OF TULSA (OK)	\$750,000
ULTRA-DENSE PORPHYRIM-BASED CAPACITIVE MOLECULAR MEMORY FOR SUPERCOMPUTING (CO)	\$1,000,000
UMASS INTEGRATIVE SCIENCE BUILDING (MA)	\$2,000,000
UNIVERSITY OF THE CUMBERLANDS SCIENCE & TECHNOLOGY COMPLEX (KY)	\$1,000,000
URI CYBERINFRASTRUCTURE (RI)	\$1,000,000
WHITTIER COLLEGE SCIENCE AND MATHEMATICS INITIATIVE (CA)	\$500,000

DEPARTMENT OF ENERGY
(AMOUNTS IN THOUSANDS)

	FY 2008 Enacted	FY 2009 Request	House Recommended
Small Sites:			
Argonne National Lab.....	433	459	10,000
Transfer from Science.....	---	---	10,000
Transfer from NNSA.....	---	---	10,000
Subtotal, Argonne National Lab.....	433	459	30,000
Brookhaven National Lab.....	28,438	8,433	15,433
Idaho National Lab.....	5,351	4,400	14,000
Tuba City, Arizona.....	---	---	5,000
Consolidated Business Center:			
California Site support.....	158	187	187
Inhalation Toxicology Lab.....	423	---	---
Stanford Linear Accelerator Center.....	5,846	4,883	7,883
Energy Technology Engineering Center.....	12,882	12,533	20,000
Los Alamos National Lab.....	1,888	1,905	1,905
Moab.....	23,734	30,513	30,513
Completed sites administration and support.....	1,189	1,100	1,100
Subtotal, Consolidated Business Center.....	46,120	51,121	61,588
Funding from Science, NNSA.....	---	---	-20,000
Subtotal, small sites.....	80,342	64,413	106,021
Use of Prior year balances.....	---	-653	-653
Congressionally directed projects.....	---	---	2,000
TOTAL, NON-DEFENSE ENVIRONMENTAL CLEANUP.....	182,263	213,411	257,019
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URANIUM ENRICHMENT DECONTAMINATION AND DECOMMISSIONING FUND			
Decontamination and decommissioning.....	602,344	480,333	514,273
Uranium/thorium reimbursement.....	19,818	---	15,000
TOTAL, UED&D FUND/URANIUM INVENTORY CLEANUP.....	622,162	480,333	529,273
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SCIENCE			
High energy physics:			
Proton accelerator-based physics.....	373,274	419,577	419,577
Electron accelerator-based physics.....	78,046	48,772	48,772
Non-accelerator physics.....	61,238	86,482	86,482
Theoretical physics.....	56,391	63,036	63,036
Advanced technology R&D.....	119,368	187,093	187,093
Total, High energy physics.....	688,317	804,960	804,960
Nuclear physics.....	415,187	479,019	479,019
Construction			
07-SC-02 Electron beam ion source Brookhaven National Laboratory, NY.....	4,162	2,438	2,438
06-SC-01 Project engineering and design (PED) 12 GeV continuous electron beam accelerator facility upgrade, Thomas Jefferson National Accelerator facility (was project 07-SC-001), Newport News, VA.....	13,377	28,623	35,623
Total, Nuclear physics.....	432,726	510,080	517,080

DEPARTMENT OF ENERGY
(AMOUNTS IN THOUSANDS)

	FY 2008 Enacted	FY 2009 Request	House Recommended
Biological and environmental research:			
Biological research.....	407,530	413,613	418,613
Climate change research.....	136,867	154,927	159,927
Total, Biological and environmental research....	544,397	568,540	578,540
Basic energy sciences:			
Research:			
Materials sciences and engineering research.....	946,403	1,125,579	1,142,579
Chemical sciences, geosciences and energy biosciences.....	230,234	297,113	297,113
Subtotal, Research.....	1,176,637	1,422,692	1,439,692
Construction:			
08-SC-01 Advanced light source (ALS) user support building, LBNL, CA.....	4,954	11,500	11,500
08-SC-10 Project engineering and design (PED) Photon ultrafast laser science and engineering (PULSE) building renovation, SLAC, CA.....	941	---	---
08-SC-11 Photon ultrafast laser science and engineering (PULSE) building renovation, SLAC, CA.....	6,391	3,728	3,728
07-SC-06 Project engineering and design (PED) National Synchrotron light source II (NSLS-II)...	29,727	93,273	107,773
05-R-320 LINAC coherent light source (LCLS).....	50,889	36,967	36,967
05-R-321 Center for functional nanomaterials (BNL)	363	---	---
Subtotal, Construction.....	93,265	145,468	159,968
Total, Basic energy sciences.....	1,269,902	1,568,160	1,599,660
Advanced scientific computing research.....	351,173	368,820	378,820
Fusion energy sciences program.....	286,548	493,050	499,050
Science laboratories infrastructure:			
Laboratories facilities support:			
Infrastructure support:			
Payment in lieu of taxes.....	1,506	1,385	1,506
Excess facilities disposal.....	8,748	14,844	36,723
Oak Ridge landlord.....	5,033	5,079	5,079
Subtotal, Infrastructure support.....	15,287	21,308	43,308
Construction:			
09-SC-72 Seismic life-safety, modernization and replacement of general purpose buildings Phase 2, PED/Construction, LBNL.....	---	12,495	12,495
09-SC-73, Interdisciplinary science building Phase 1, PED, BNL.....	---	8,240	10,740
09-SC-74, Technology and engineering development facilities PED, TJNAF.....	---	3,700	3,700
08-SC-71 Modernization of laboratory facilities PED, ORNL.....	---	14,103	25,103
07-SC-05 Physical science facilities, PNNL.....	---	41,155	41,155
03-SC-001 Science laboratories infrastructure MEL-001 Multiprogram energy laboratory infrastructure projects, various locations....	49,574	9,259	9,259
Subtotal, Construction.....	49,574	88,952	102,452

DEPARTMENT OF ENERGY
(AMOUNTS IN THOUSANDS)

	FY 2008 Enacted	FY 2009 Request	House Recommended
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Total, Science laboratories infrastructure.....	64,861	110,260	145,760
Safeguards and security.....	75,946	80,603	80,603
Science program direction:			
Headquarters.....	75,525	82,846	82,846
Office of Science and Technical Information.....	---	8,916	8,916
Field offices.....	102,254	112,151	112,151
Total, Science program direction.....	177,779	203,913	203,913
Workforce development for teachers and scientists.....	8,044	13,583	13,583
Advanced Research Projects Agency - Energy (ARPA-E)....	---	---	15,000
Congressionally directed projects.....	123,623	---	39,700
Subtotal, SCIENCE.....	4,023,316	4,721,969	4,876,669
Use of prior year balances.....	---	---	-15,000
Less security charge for reimbursable work.....	-5,605	---	---
TOTAL, SCIENCE.....	4,017,711	4,721,969	4,861,669
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NUCLEAR WASTE DISPOSAL			
Repository program.....	117,906	172,388	172,388
Program direction.....	69,363	74,983	74,983
TOTAL, NUCLEAR WASTE DISPOSAL.....	187,269	247,371	247,371
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INNOVATIVE TECHNOLOGY GUARANTEE PROGRAM			
Administrative operations.....	5,459	19,880	19,880
Offsetting collection.....	-1,000	-19,880	-19,880
Advance appropriation (P. L. 110-161).....	42,000	25,000	25,000
Proposed change in subsidy cost.....	---	355,000	440,000
TOTAL, INNOVATIVE TECHNOLOGY GUARANTEE PROGRAM..	46,459	380,000	465,000
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DEPARTMENTAL ADMINISTRATION			
Administrative operations:			
Salaries and expenses			
Office of the Secretary.....	5,751	5,700	5,700
Chief Financial Officer.....	41,998	45,048	43,548
Management.....	65,033	67,000	65,500
Human capital management.....	27,986	31,436	31,436
Chief Information Officer.....	47,106	53,738	53,738
Congressional and intergovernmental affairs.....	4,733	4,700	4,700
Economic impact and diversity.....	5,614	3,545	3,545
General Counsel.....	29,889	31,233	31,233
Policy and international affairs.....	18,831	19,469	17,969
Public affairs.....	3,339	3,780	3,780
Office of Indian Energy Policy and Programs.....	---	---	4,500
Subtotal, Salaries and expenses.....	250,280	265,649	265,649
Program support:			
Minority economic impact.....	829	855	855